

Improving Cost Recovery Through Water Metering

Orenburg, Russia

Background

In Russia the provision of communal services such as potable water is inefficient and ultimately financially unsustainable. In 1992, only a small percentage of costs for communal services were recovered from households in Russia; the rest were covered by public subsidies. Residential customers have little incentive to conserve water or repair leaks, as they are billed for water use based on state estimates rather than meter readings. As part of a comprehensive water sector reform project in the City of Orenburg (population 650,000), the Department of Housing, the City Pricing Committee, and the municipally-owned water and wastewater service enterprise (*Vodakanal*) decided to demonstrate the benefits of metering water consumption. The city hoped that metering would increase water conservation efforts and generate revenue while clarifying the roles and responsibilities of service providers and customers.

Innovation

To test the benefits of water metering, the Orenburg *Vodakanal* purchased water meters and installed them in eight demonstration buildings. After examining apartment buildings for the pilot meter installation, the *Vodakanal* concluded that water use should be metered at the building level rather than the apartment level. It would have been preferable to meter water flow at the apartment level to better align individual household billing with actual consumption, but the apartment buildings inspected were not designed with water metering in mind. Building-level data on water flows were collected for three months, beginning in December 1995. In reviewing billing and collection procedures, the *Vodakanal* found that residential customers were substantially under-billed as a result of using fixed norms to estimate bills rather than meter readings. A cost-benefit analysis of data collected led to the conclusion that metering apartment buildings, along with other sectoral reform measures, would yield net benefits in the form of increased revenue generation and heightened water conservation. The cost of implementing this innovative practice, including the costs of pilot metering, was approximately \$300,000.

Results

As a result of the pilot water metering project, the *Vodakanal* realized that its billing system did not reflect the true costs of service provision. Therefore, the *Vodakanal* is exploring the revision of billing norms and the city-wide installation of meters. Metering will generate additional revenues because state estimates of water use consistently underestimated actual water consumption. Metering will result in greater water conservation, as households will use water more carefully and repair leaky pipes. Households will not be unduly burdened by paying for water based on meter readings, as water will cost the average Orenburg family only 0.2 percent of its income. While this percentage of household income will increase as water tariff subsidies are reduced, the overall initiative was still deemed affordable. Orenburg is now expected to improve the tariff approval process, allowing tariff levels to automatically increase as prices for key inputs increase. The city is also expected to begin shutting off service for chronic non-payers.

Metering should not be implemented on its own, but as part of a comprehensive water sector reform package including a public education campaign with mechanisms for customer feedback. A water metering manual that draws heavily on the Orenburg pilot has been prepared and can be used to facilitate replication of the innovation. The practice is now being introduced in Novgorod and Pskov, and discussions have been held with St. Petersburg.

Summary

To determine the benefits of metering water consumption, the City of Orenburg installed water meters in eight demonstration buildings. A cost-benefit analysis of water usage data collected showed that metering apartment buildings, along with other reform measures such as cutting off service for chronic non-payers, would yield net benefits in the form of increased revenue generation and heightened water conservation.

For more information contact:

**Yuri N. Karpov, First Deputy Head, Orenburg City Administration
Tel. 7-095-3532-47-50-55
Fax 7-095-3532-72-11-53**